

Freeform Search

10058597

Database:

US Pre-Grant Publication Full-Text Database
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Derwent World Patents Index
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Term:

L1 and non simian

Display: Documents in Display Format: Starting with Number Generate: ☐ Hit List ☒ Hit Count ☐ Side by Side ☐ Image

Search

Clear

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Search History

DATE: Tuesday, July 20, 2004 [Printable Copy](#) [Create Case](#)Set Name Query

side by side

Hit Count Set Name

result set

DB=USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ

L2 L1 and non simian 3 L2L1 transform\$2 same cell same CD 151 4 L1

END OF SEARCH HISTORY

Freeform Search

Database:

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 US Patents Full-Text Database
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 IBM Technical Disclosure Bulletins

Term:

6410031.pn.

 Display: Documents in Display Format: Starting with Number

 Generate: ☐ Hit List ☒ Hit Count ☐ Side by Side ☐ Image

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<i>DB=USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ</i>			
<u>L23</u>	L22 and CD 151	0	<u>L23</u>
<u>L22</u>	6410031.pn.	3	<u>L22</u>
<u>L21</u>	119 and CD151	0	<u>L21</u>
<u>L20</u>	L19 CD 151	0	<u>L20</u>
<u>L19</u>	6143880.pn.	2	<u>L19</u>
<u>L18</u>	L17 and CD 151	0	<u>L18</u>
<u>L17</u>	6110467.pn.	2	<u>L17</u>
<u>L16</u>	L15 and CD 151	0	<u>L16</u>
<u>L15</u>	6033844.pn.	2	<u>L15</u>
<u>L14</u>	113 and cd 151	0	<u>L14</u>
<u>L13</u>	6015663.pn.	2	<u>L13</u>
<u>L12</u>	L11 and cd151	0	<u>L12</u>
<u>L11</u>	5858729.pn.	2	<u>L11</u>
<u>L10</u>	19 and cd 151	0	<u>L10</u>
<u>L9</u>	5846805.pn.	2	<u>L9</u>
<u>L8</u>	L7 and CD151	0	<u>L8</u>

<u>L7</u>	5698203.pn.	2	<u>L7</u>
<u>L6</u>	15 and CD 151	0	<u>L6</u>
<u>L5</u>	5695766.pn.	2	<u>L5</u>
<u>L4</u>	L3 and cd151	0	<u>L4</u>
<u>L3</u>	5587164.pn.	2	<u>L3</u>
<u>L2</u>	11 and CD151	0	<u>L2</u>
<u>L1</u>	5510258.pn.	2	<u>L1</u>

END OF SEARCH HISTORY

Freeform Search

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Database:	US Pre-Grant Publication Full-Text Database		
	US Patents Full-Text Database		
	US OCR Full-Text Database		
	EPO Abstracts Database		
	JPO Abstracts Database		
	Derwent World Patents Index		
	IBM Technical Disclosure Bulletins		
Term:	L5 and simian		
Display:	10	Documents in Display Format: -	Starting with Number 11
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Search

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Interrupt

Search History

 DATE: Tuesday, July 20, 2004 [Printable Copy](#) [Create Case](#)

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<u>L6</u>	L5 and simian	12	<u>L6</u>
<u>L5</u>	kumar.in.	9135	<u>L5</u>
<u>L4</u>	Shanmukhappa.pn.	0	<u>L4</u>
<u>L3</u>	L2 and simian	6	<u>L3</u>
<u>L2</u>	kapil.in.	106	<u>L2</u>
<u>L1</u>	6740490.pn.	2	<u>L1</u>

END OF SEARCH HISTORY

Freeform Search

Database:	US Pre-Grant Publication Full-Text Database		
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	EPO Abstracts Database		
	JPO Abstracts Database		
	Derwent World Patents Index		
	IBM Technical Disclosure Bulletins		
Term:	US-20030186236-A1.did.		
Display:	10	Documents in Display Format:	CIT
		Starting with Number	1
Generate:	<input type="radio"/> Hit List <input checked="" type="radio"/> Hit Count <input type="radio"/> Side by Side <input type="radio"/> Image		

Search

Clear

Interrupt

Search History

DATE: Tuesday, July 20, 2004 [Printable Copy](#) [Create Case](#)**Set Name Query**

side by side

Hit Count Set Name

result set

*DB=PGPB; PLUR=YES; OP=ADJ*L4 US-20030186236-A1.did.1 L4L3 US-20030186236-A1.did.1 L3*DB=USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ*L2 L1 and CD1511 L2L1 porcine reproductive and respiratory syndrome169 L1

END OF SEARCH HISTORY

> d his

10058597

(FILE 'HOME' ENTERED AT 13:24:43 ON 20 JUL 2004)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE' ENTERED AT 13:25:10 ON 20 JUL 2004

L1	13 S KAPIL.IN.
L2	0 S L1 AND CD151
L3	0 S L1 AND SIMIAN
L4	0 S L1 AND PORCINE
L5	0 S SHANMUKHAPPA.IN.
L6	1170 S KUMAR.IN.
L7	6 S L6 AND PORCINE
L8	0 S L7 AND CD151
L9	3 DUP REM L7 (3 DUPLICATES REMOVED)
L10	3 DUP REM L7 (3 DUPLICATES REMOVED)

10058597

```
=> s transform##(P)cell#(P)CD 151
L1          0 TRANSFORM##(P) CELL#(P) CD 151

=> s CD 151
L2          25 CD 151

=> s l2 and transform##
L3          0 L2 AND TRANSFORM##

=> dup rem l2
PROCESSING COMPLETED FOR L2
L4          14 DUP REM L2 (11 DUPLICATES REMOVED)

=> s l14 and porcine
L14 NOT FOUND
The L-number entered could not be found. To see the definition
of L-numbers, enter DISPLAY HISTORY at an arrow prompt (=>).

=> s l4 and porcine
L5          4 L4 AND PORCINE

=> d l5 1-4 bib ab kwic

L5  ANSWER 1 OF 4  CAPLUS  COPYRIGHT 2004 ACS on STN
AN  2003:139233  CAPLUS
DN  138:185220
TI  Interaction of cd 151/peta-3 with 3'utr rna of
porcine reproductive and respiratory syndrome virus
AU  Shanmukhappa, Kumar S.
CS  Kansas State Univ., Manhattan, KS, USA
SO  (2002) 80 pp. Avail.: UMI, Order No. DA3052603
    From: Diss. Abstr. Int., B 2002, 63(5), 2120
DT  Dissertation
LA  English
AB  Unavailable
TI  Interaction of cd 151/peta-3 with 3'utr rna of
porcine reproductive and respiratory syndrome virus
IT  Genetic element
    RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (3'-untranslated region; interaction of CD 151
        /PETA-3 with 3'UTR RNA of porcine reproductive and
        respiratory syndrome virus)
IT  CD antigens
    RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (CD151; interaction of CD 151/PETA-3 with 3'UTR RNA
        of porcine reproductive and respiratory syndrome virus)
IT  Molecular association
    Sus scrofa domestica
    Swine infertility and respiratory syndrome virus
        (interaction of CD 151/PETA-3 with 3'UTR RNA of
        porcine reproductive and respiratory syndrome virus)
IT  Viral RNA
    RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (interaction of CD 151/PETA-3 with 3'UTR RNA of
        porcine reproductive and respiratory syndrome virus)

L5  ANSWER 2 OF 4  CAPLUS  COPYRIGHT 2004 ACS on STN
AN  2002:744572  CAPLUS
DN  138:120753
TI  Cloning and identification of MARC-145 cell proteins binding to 3' UTR and
    partial nucleoprotein gene of porcine reproductive and
    respiratory syndrome virus
AU  Shanmukhappa, Kumar; Kapil, Sanjay
CS  Department of Diagnostic Medicine-Pathobiology, College of Veterinary
```

Medicine, Kansas State University, Manhattan, KS, 66506, USA

SO Advances in Experimental Medicine and Biology (2001), 494 (Nidoviruses
(Coronaviruses and Arteriviruses)), 641-646
CODEN: AEMBAP; ISSN: 0065-2598

PB Kluwer Academic/Plenum Publishers

DT Journal

LA English

AB RNA ligand screening of a MARC cell expression library was used to
identify the cellular proteins that bind to 3'-UTR of **porcine**
reproductive and respiratory syndrome virus (PRRSV). The RNA binding
property of a tetraspanin mol., CD 151, was also
reported. This mol. also renders BHK-21 cells susceptible to PRRSV
infection. The CD 151 is a transmembrane
glycoprotein, belonging to the tetraspanin or transmembrane 4 superfamily
of cellular proteins. These have four highly conserved hydrophobic
domains spanning the lipid bilayer, two extracellular domains between
them. PRRSV is reported to replicate in MARC, MA 104, CL 2621, and
primary cell cultures of alveolar macrophages. The BHK-21 cells lack
CD 151 by RT-PCR and immunohistochemistry. But the
stable transfected BHK-21 cells expressing the CD 151
become permissive to PRRSV. It was proposed that the CD
151 through the interaction with the RNA of 3'UTR PRRSV might act
as the viral RNA transporter mol. into the cell.

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Cloning and identification of MARC-145 cell proteins binding to 3' UTR and
partial nucleoprotein gene of **porcine** reproductive and
respiratory syndrome virus

AB RNA ligand screening of a MARC cell expression library was used to
identify the cellular proteins that bind to 3'-UTR of **porcine**
reproductive and respiratory syndrome virus (PRRSV). The RNA binding
property of a tetraspanin mol., CD 151, was also
reported. This mol. also renders BHK-21 cells susceptible to PRRSV
infection. The CD 151 is a transmembrane
glycoprotein, belonging to the tetraspanin or transmembrane 4 superfamily
of cellular proteins. These have four highly conserved hydrophobic
domains spanning the lipid bilayer, two extracellular domains between
them. PRRSV is reported to replicate in MARC, MA 104, CL 2621, and
primary cell cultures of alveolar macrophages. The BHK-21 cells lack
CD 151 by RT-PCR and immunohistochemistry. But the
stable transfected BHK-21 cells expressing the CD 151
become permissive to PRRSV. It was proposed that the CD
151 through the interaction with the RNA of 3'UTR PRRSV might act
as the viral RNA transporter mol. into the cell.

ST CD151 **porcine** reproductive respiratory syndrome virus RNA 3UTR
binding

IT Genetic element
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(3'-untranslated region; cloning and identification of MARC-145 cell
proteins binding to 3' UTR and partial nucleoprotein gene of
porcine reproductive and respiratory syndrome virus)

IT CD antigens
RL: ADV (Adverse effect, including toxicity); BSU (Biological study,
unclassified); PRP (Properties); BIOL (Biological study)
(CD151; cloning and identification of MARC-145 cell proteins binding to
3' UTR and partial nucleoprotein gene of **porcine** reproductive
and respiratory syndrome virus)

IT Molecular cloning
Swine infertility and respiratory syndrome virus
Virulence (microbial)
(cloning and identification of MARC-145 cell proteins binding to 3' UTR
and partial nucleoprotein gene of **porcine** reproductive and
respiratory syndrome virus)

IT Viral RNA

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
(Biological study)
(cloning and identification of MARC-145 cell proteins binding to 3' UTR
and partial nucleoprotein gene of **porcine** reproductive and
respiratory syndrome virus)

L5 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:594870 CAPLUS

DN 137:153383

TI CD151 host susceptibility factor for **porcine** reproductive and
respiratory syndrome virus and its uses for improved swine breeding,
non-simian recombinant cell line for propagation of the virus and as a
target for antiviral compounds

IN Kapil, Sanjay; Shanmukhappa, Kumar

PA Kansas State University Research Foundation, USA

SO PCT Int. Appl., 77 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002060924	A2	20020808	WO 2002-US2868	20020129
	WO 2002060924	A3	20021017		
	WO 2002060924	C2	20021205		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	US 2003165814	A1	20030904	US 2001-772044	20010129
	US 6740490	B2	20040525		
PRAI	US 2001-772044	A	20010129		

AB **Porcine** reproductive and respiratory syndrome virus (PRRSV) causes serious economic losses in swine. The present invention determined that CD151 (also known as platelet-endothelial cell tetraspan antigen-3, PETA-3) is a susceptibility factor for PRRSV infection by transfecting a cell line which is not susceptible to PRRSV infection (BHK-21) with CD151, which rendered the cell line susceptible. Because CD151 can be accessed in cellular material including blood platelets and germ plasm, the present invention provides a non-invasive method of screening different swine for susceptibility to PRRSV, thereby improving breeding plans. In the case of a valuable animal, results from such screening can indicate any offspring's susceptibility to PRRSV. Addnl., the viral RNA-CD151 interaction possesses high affinity and can be used as a tool to detect antiviral compds. which can be further improved by using combinatorial chemical. Accordingly, antiviral compds. that can block the viral RNA-CD 151 interaction can be developed. Advantageously, transfection of CD151 into non-simian cell lines can confer susceptibility to PRRSV and these recombinant cell lines can be used for preparation of biologics that will avoid simian cell lines which could be a source of primate viruses in xenotransplanted organs from pigs. Finally, the present inventions describes the basic mechanism by which the virus RNA enters a target cell. This novel class of proteins is termed viral RNA entry proteins and a novel class of compds. named anti-RNA Entry Proteins can be used to block the entry of viral RNA, thereby preventing viral infections.

TI CD151 host susceptibility factor for **porcine** reproductive and
respiratory syndrome virus and its uses for improved swine breeding,
non-simian recombinant cell line for propagation of the virus and as a

target for antiviral compounds

AB **Porcine** reproductive and respiratory syndrome virus (PRRSV) causes serious economic losses in swine. The present invention determined that CD151 (also known as platelet-endothelial cell tetraspan antigen-3, PETA-3) is a susceptibility factor for PRRSV infection by transfecting a cell line which is not susceptible to PRRSV infection (BHK-21) with CD151, which rendered the cell line susceptible. Because CD151 can be accessed in cellular material including blood platelets and germ plasm, the present invention provides a non-invasive method of screening different swine for susceptibility to PRRSV, thereby improving breeding plans. In the case of a valuable animal, results from such screening can indicate any offspring's susceptibility to PRRSV. Addnl., the viral RNA-CD151 interaction possesses high affinity and can be used as a tool to detect antiviral compds. which can be further improved by using combinatorial chemical. Accordingly, antiviral compds. that can block the viral RNA-CD 151 interaction can be developed. Advantageously, transfection of CD151 into non-simian cell lines can confer susceptibility to PRRSV and these recombinant cell lines can be used for preparation of biologics that will avoid simian cell lines which could be a source of primate viruses in xenotransplanted organs from pigs. Finally, the present inventions describes the basic mechanism by which the virus RNA enters a target cell. This novel class of proteins is termed viral RNA entry proteins and a novel class of compds. named anti-RNA Entry Proteins can be used to block the entry of viral RNA, thereby preventing viral infections.

IT Animal cell line

Antiviral agents

Breeding, animal

Cercopithecus aethiops

Drug screening

High throughput screening

Immunoassay

Molecular cloning

Retroviral vectors

Sus scrofa domestica

Swine infertility and respiratory syndrome virus

Vaccines

(CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Viral RNA

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Gene, animal

RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)

(CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Antigens

RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)

(PETA-3; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Proteins

RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)

(RNA-binding; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT PCR (polymerase chain reaction)
(RT-PCR (reverse transcription-PCR), assay; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Proteins
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(anti-RNA entry; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Immunoassay
(enzyme-linked immunosorbent assay; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT cDNA sequences
(for CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus in swine and simian)

IT Diagnosis
(immunodiagnosis; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Recombination, genetic
(integration, chromosomal; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Endocytosis
(modulation of; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT Protein sequences
(of CD151 antigen for host susceptibility factor for **porcine** reproductive and respiratory syndrome virus in swine and simian)

IT DNA sequences
(of CD151 gene for host susceptibility factor for **porcine** reproductive and respiratory syndrome virus in swine and simian)

IT Genetic polymorphism
(single nucleotide; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT 253623-54-0, GenBank AW314209 265762-94-5, GenBank AW786379
278421-43-5, GenBank BE233265
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT 444953-15-5
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleotide sequence; CD151 host susceptibility factor for

porcine reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT 381287-00-9, GenBank AF275666
 RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (nucleotide sequence; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding, recombinant cell line for propagation of the virus and as target for antiviral compds.)

IT 444953-16-6 444953-17-7 444953-18-8 444953-19-9 444953-20-2
 444953-21-3 444953-22-4 444953-23-5 444953-24-6 444953-25-7
 444953-26-8 444953-27-9 444953-28-0 444953-29-1 444953-30-4
 444953-31-5 445052-98-2
 RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (nucleotide sequence; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding.)

IT 444985-26-6 444985-27-7 444985-28-8 444985-29-9 444985-30-2
 444985-31-3
 RL: PRP (Properties)
 (unclaimed nucleotide sequence; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding.)

IT 444985-18-6, 2: PN: WO02060924 SEQID: 5 unclaimed DNA 444985-19-7, 3: PN: WO02060924 SEQID: 6 unclaimed DNA
 RL: PRP (Properties)
 (unclaimed nucleotide sequence; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding.)

IT 444985-20-0, 4: PN: WO02060924 SEQID: 7 unclaimed DNA 444985-21-1, 6: PN: WO02060924 SEQID: 9 unclaimed DNA 444985-22-2 444985-23-3
 444985-24-4 444985-25-5
 RL: PRP (Properties)
 (unclaimed nucleotide sequence; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding.)

IT 444886-49-1
 RL: PRP (Properties)
 (unclaimed sequence; CD151 host susceptibility factor for **porcine** reproductive and respiratory syndrome virus and its uses for improved swine breeding.)

L5 ANSWER 4 OF 4 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
 AN 2004:282879 BIOSIS
 DN PREV200400283606
 TI Identification and applications of **porcine** reproductive and respiratory syndrome virus host susceptibility factor(s) for improved swine breeding.
 AU Kapil, Sanjay [Inventor, Reprint Author]; Shanmukhappa, Kumar [Inventor]
 CS Manhattan, KS, USA
 ASSIGNEE: Kansas State University Research Foundation
 PI US 6740490 May 25, 2004
 SO Official Gazette of the United States Patent and Trademark Office Patents, (May 25 2004) Vol. 1282, No. 4. <http://www.uspto.gov/web/menu/patdata.html> . e-file.
 ISSN: 0098-1133 (ISSN print).
 DT Patent
 LA English
 ED Entered STN: 9 Jun 2004
 Last Updated on STN: 9 Jun 2004

AB **Porcine** reproductive and respiratory syndrome virus (PPRSV) causes serious economic losses in swine. The present invention determined that **CD 151** is a susceptibility factor for PPRSV infection by transfecting a cell line which is not susceptible to PPRSV infection (BHK-21) with **CD 151**, which rendered the cell line susceptible. Because **CD 151** can be accessed in cellular material including blood platelets and germplasm, the present invention provides a non-invasive method of screening different swine for susceptibility to PPRSV, thereby improving breeding plans. In the case of a valuable animal, results from such screening can indicate any offspring's susceptibility to PPRSV. Additionally, the viral RNA-**CD 151** interaction possesses high affinity and can be used as a tool to detect anti-viral compounds which can be further improved by using combinatorial chemistry. Accordingly, anti-viral compounds that can block the viral RNA-**CD 151** interaction can be developed. Advantageously, transfection of **CD 151** into non-simian cell lines can confer susceptibility to PPRSV and these recombinant cell lines can be used for preparation of biologics that will avoid simian cell lines which could be a source of primate viruses in xenotransplanted organs from pigs. Finally, the present invention describes the basic mechanism by which the virus RNA enters a target cell. This novel class of proteins is termed viral RNA entry proteins and a novel class of compounds named anti-RNA Entry Proteins can be used to block the entry of viral RNA, thereby preventing viral infections.

TI Identification and applications of **porcine** reproductive and respiratory syndrome virus host susceptibility factor(s) for improved swine breeding.

AB **Porcine** reproductive and respiratory syndrome virus (PPRSV) causes serious economic losses in swine. The present invention determined that **CD 151** is a susceptibility factor for PPRSV infection by transfecting a cell line which is not susceptible to PPRSV infection (BHK-21) with **CD 151**, which rendered the cell line susceptible. Because **CD 151** can be accessed in cellular material including blood platelets and germplasm, the present invention provides a non-invasive method of screening. . . the case of a valuable animal, results from such screening can indicate any offspring's susceptibility to PPRSV. Additionally, the viral RNA-**CD 151** interaction possesses high affinity and can be used as a tool to detect anti-viral compounds which can be further improved by using combinatorial chemistry. Accordingly, anti-viral compounds that can block the viral RNA-**CD 151** interaction can be developed. Advantageously, transfection of **CD 151** into non-simian cell lines can confer susceptibility to PPRSV and these recombinant cell lines can be used for preparation of. . .

IT Methods & Equipment

porcine reproductive and respiratory syndrome virus host susceptibility factor identification method: laboratory techniques; swine breeding improvement: clinical techniques

=>